

**REMARKS**

Favorable reconsideration of the above-identified application is requested in view of the following remarks.

Claim 12 is newly added by this amendment. Thus Claims 1-12 are pending in this application, with Claim 1 being the only independent claim.

The Examiner is thanked for indicating that Claims 7-9 define allowable subject matter. Claims 1-6, and 10-12 are the only claims at issue.

Claims 1-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,417,053, hereinafter *Uji*, in view of U.S. Patent No. 5,329,758, hereinafter *Urbach*, and Claims 10 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Uji* in view of *Urbach*, and further in view of Design Choice.

Claim 1 defines a gas turbine set, with a cooling air system through which at least one cooling air mass flow flows from a compressor to thermally highly loaded components of the gas turbine set. Means for increasing the pressure of flowing cooling air are arranged in a cooling air duct of the cooling air system. The means for increasing the pressure are ejectors operable with a working fluid. The working fluid mass flow is less than 20% of a driven air mass flow.

The Official Action relies on *Uji* for a disclosure of every feature of Claim 1, except for the claim recitation relating to the working fluid mass flow being less than 20% of a driven mass flow, and relies on *Urbach* for such a disclosure.

*Uji* discloses a partial regenerative dual fluid cycle gas turbine assembly. In Figs. 1 and 2, *Uji* shows a gas turbine assembly having a compressor 1, a combustor 2 and a turbine 3. A first portion of the compressed air is introduced directly into the combustor 2 where fuel is added and the mixture is combusted,

thereby delivering high pressure and high temperature combustion gasses to the turbine 3. A second portion is introduced into the mixer 10, is mixed with steam, and is then delivered to a heat exchanger 12. In the heat exchanger 12, the air/steam mixture is heated by the exhaust gases from the combustor 2 via the turbine 3. The heated air/steam mixture is delivered from the heat exchanger 12 to the combustor 2 and mixed with the air from the compressor 1. The mixture of compressed air and heated air/steam shown in *Uji* is not a cooling air mass flow, but rather a combustion air mass flow.

From the Official Action, it is not clear what components of *Uji* are considered to be a cooling air system. Should this rejection be maintained, it is requested that it be explained what portion of *Uji*'s device is considered to be a cooling air system, and how *Uji* operates as a gas turbine with a cooling air system.

Claim 1 is allowable at least because a skilled person would not have looked toward *Uji* for direction when developing a gas turbine set with a cooling air system. *Uji*'s device simply does not relate to a cooling air system. In fact, *Uji* is completely silent with respect to such. Thus, a skilled person would have recognized that *Uji*'s device is not a gas turbine set with a cooling air system.

Claim 1 is also allowable because, even if a skilled person did somehow look toward *Uji* for guidance concerning a gas turbine set with a cooling air system, *Uji*'s device does not disclose, together with the other claimed features, a cooling air system through which at least one cooling air mass flows from a compressor to thermally highly loaded components of a gas turbine set. As noted above, *Uji*'s air/steam mixture is heated by the exhaust gasses from the combustor 2, and is not a cooling air mass flow as claimed. *Uji* shows the heated air/steam mixture being

fed through the combustor 2 and then into the turbine 3. Thus, only a combusted/heated air/steam mixture not functioning as a cooling air mass flow is delivered to the turbine 3.

Additionally, the Official Action relies on *Urbach* for a disclosure of a working fluid mass flow that is less than 20% of a driven cooling mass flow. However, *Urbach* discloses a steam-augmented gas turbine and is not related to cooling air mass flow. Also, the portion of *Urbach* identified in the Official Action, column 3, lines 21-28, states that “some commercial version of steam augmented gas turbines accept steam in amounts up to 16% of the compressor air flow...” (emphasis added). Thus, this discussion is not related to cooling air mass flow. Rather, the passage refers to power augmentation steam mass flow related to the compressor mass flow of a gas turbine. Therefore, one having ordinary skill in the art would have had no motivation to implement the claimed relationship between a working fluid mass flow and driven cooling air mass flow in light of the disclosure in *Urbach*. This is particularly true when starting from the disclosure of *Uji*. Moreover, *Urbach* provides no suggestion of a relationship between a working fluid mass flow and driven cooling air mass flow, let alone the relationship recited in Claim 1.

For at least the reasons stated above, a combination of the disclosures in *Uji* and *Urbach* would not have directed one to provide a gas turbine set as recited in independent Claim 1.

Claims 2-6 are allowable at least by virtue of their dependence from Claim 1, and also because they define features that distinguish over the cited disclosures.

Claims 10 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Uji* in view of *Urbach*, and further in view of Design Choice.

The Official Action proposes that it would have been an obvious matter of design choice to have a working fluid be less than 10% and 5% of the driven mass flow, as defined by Claims 10 and 11, respectively, because such does not present a novel or unexpected result. Contrary to the position set forth in the Official Action, it is pointed out that by employing working fluid less than 10% or 5% of the driven mass, the cooling system designed for air cooling is not overdueled charged with steam, thereby producing a positive unexpected result.

Claim 12 defines that a portion of the cooling air mass flow flows to a combustor and subsequently to a turbine, and that a second portion of the cooling air mass flow flows to the turbine, thereby bypassing the combustor. Neither of the cited disclosures includes these features together with the other claimed features.

For at least the foregoing reasons, it is requested that all the rejections be withdrawn and that this application be allowed in a timely manner.

Should any questions arise in connection with this application, or should the Examiner believe a telephone conference would be helpful in resolving any remaining issues pertaining to this application, the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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